

REMARKS

INTRODUCTION:

In accordance with the foregoing, claims claims 1, 8, 9, 12, 13, 16, 18, and 20 have been amended to further redefine and clarify the recitations provided therein. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-24 are pending and under consideration. Reconsideration is requested.

ENTRY OF AMENDMENT UNDER 37 C.F.R. § 1.116:

Applicant requests entry of this Rule 116 Response because the amendments of claims 1, 10, and 14-17 should not entail any further search by the Examiner since no new features are being added or no new issues are being raised; and the amendments do not significantly alter the scope of the claims and place the application at least into a better form for purposes of appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures sets forth in Section 714.12 that "any amendment that would place the case either in condition for allowance or in better form for appeal may be entered." Moreover, Section 714.13 sets forth that "the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTION UNDER 35 U.S.C. § 102:

In items 3-4, on pages 3-4 of the Action, claims 1-6 and 8-12 were rejected under 35 USC 102(e) as being anticipated by Stayt, Jr., et al. (U.S. Patent No. 6,389,046) ("Stayt"). This rejection is traversed and reconsideration is requested.

The light source device of independent claim 1 includes the temperature sensor and a control loop which comprises "an optical filter in said control loop coupled to said plurality of laser diodes and having a transmittance substantially periodically changing with the wavelength of an incident light." Because the temperature sensor deteriorates with a secular change, the

wavelengths of the laser diodes are controlled based on the temperature measured by the temperature sensor and the optical filter has the transmittance substantially periodically changing with a wavelength of incident light, the wavelengths of the laser diodes differ from the desired wavelength and may exceed the desired wavelength pull-in range.

Stayt discloses methods for stabilizing the output wavelength of an optical laser source and for reducing the drift in a wavelength stabilized laser source. Each of photodetectors in Stayt detects one of the two emergent optical beams and generates an electrical signal 450, 550 indicative of the amplitude of the respective emergent beam, wherein the amplitude is a function of wavelength and power for the non-reference path having optical beam 400. See column 6, lines 6-39. The reference path emergent beam amplitude is a function only of power. Amplified electrical signals outputted from each amplifier are then inputted into a closed feedback loop 700, along with temperature data of the control laser element 151 from the temperature sensor 190, wherein the feedback loop 700 has a controller 710, which evaluates differences in the input signals and produces a control signal 720 indicative of valuation differences between the two amplified electrical signals. However, Stayt fails to disclose a deterioration of a thermal sensor, which changes the wavelength of the laser diode. Further, Stayt fails to disclose that the wavelengths of the laser may exceed the desired wavelength pull-in range because of the deterioration of the temperature sensor.

Specifically, Stayt fails to teach or suggest, “said change in said temperature control condition for said reference laser diode comprises a result of a comparison between an initial set temperature and a latest set temperature, where a deterioration of said temperature sensor reflects the compensation of said temperature control conditions of said laser diodes other than said reference laser diode,” as recited in independent claim 1.

According to an aspect of the present invention, a temperature control condition is compensated according to a change in temperature control condition, which contains a result of comparison between an initial temperature and a latest set temperature. The result of comparison represents the deterioration of the temperature sensor because the reference laser diode is operated at temperatures lower than or equal to an ordinary temperature and the deterioration of the reference laser is small. That is, the cited reference fails to teach or suggest, “a deterioration of said temperature sensor reflects the compensation of said temperature control conditions of said laser diodes other than said reference laser diode,” as recited in independent claim 1.

Stayt fails to disclose how to obtain a deterioration of a thermal sensor. Further, Stayt

fails to teach or suggest in column 7, lines 1-41 “said change in said temperature control condition for said reference laser diode comprises a result of a comparison between an initial set temperature and a latest set temperature,” as recited in independent claim 1.

The light source device of independent claim 1 comprises “an initial starting wavelength of an optical signal outputted from said laser diodes other than said reference laser diode is controlled within a desired wavelength pull-in range.” However, as the light source device of Stayt does not compensate for temperature control condition according to the result of comparison between an initial set temperature and a latest set temperature, it can not control the initial starting wavelength of the optical signal outputted from the laser diodes other than the reference laser diode to be within a desired wavelength pull-in range such as independent claim 1 when the wavelengths of the laser diodes exceed the desired wavelength pull-in range. Nothing in columns 6, 7, or 8 of Stayt is there a teaching or suggestion of such claimed feature recited in independent claim 1.

Because independent claim 9 includes similar claim features as those recited in independent claim 1, although of different scope, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 9.

It is respectfully requested that independent claims 1 and 9 and related dependent claims be allowed.

In item 5, on pages 4-6 of the Office Action, claims 1-12 were rejected under 35 USC 102(e) as being anticipated by Volz et al. (U.S. Patent No. 6,501,773) (“Volz”). This rejection is traversed and reconsideration is requested.

Volz generally provides a plurality of laser diode 102/832 in FIGS. 1A and 8A, but fails to disclose the reference laser diode of independent claim 1. Volz discloses the system DSP 810, which performs the temperature control, based on the latest temperature and the commanded temperature setting in col.6, lines 58-60. However, Volz fails to disclose a deterioration of said temperature sensor reflects the compensation of said temperature control conditions of said laser diodes other than said reference laser diode, and an initial starting wavelength of an optical signal outputted from said laser diodes other than said reference laser diode is controlled within a desired wavelength pull-in range,” as recited in independent claim 1. Further, Volz fails to disclose how to obtain the deterioration of the thermal sensor. That is, Volz fails to teach or suggest all the recitations of independent claim 1.

In addition, according to the Office Action, “it is inherent that the ambient temperature

sensor 42 is at 'a position becoming lower in temperature than a position where said first temperature sensor is provided when driving said plurality of laser diodes,' since the ambient is used as heat sink to cool the LD. However, "when an examiner relies on inherency, it is incumbent on the examiner to point to the 'page and line' of the prior art which justifies an inherency theory." Ex parte Schricker, 56 USPQ2d 1723 (BdPatApp&Int 2000).

Thus, "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fine, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). Applicants respectfully assert that the Office Action has failed to provide a reference, which justify an inherency theory. According to current Patent rules and procedures, evidence must be provided supporting where in the prior art is there a teaching or suggestion of all the recitations in the claims. Otherwise, an anticipatory rejection fails. It is respectfully requested that either evidence be provided, such as a reference or an Affidavit signed by the Examiner of record, supporting that aforementioned recitation is well known in the art.

Because independent claim 9 includes similar claim features as those recited in independent claim 1, although of different scope, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 9.

It is respectfully requested that independent claims 1 and 9 and related dependent claims be allowed.

In items 6-7, on page 6 of the Office Action, the Examiner rejected claim 7 under 35 USC § 103(a) as being unpatentable over Stayt. This rejection is traversed and reconsideration is requested.

Because dependent claim 7 depends from independent claim 1, Stayt must teach all the claimed features of independent claim 1. The description of Stayt and arguments previously presented to support the patentability of independent claim 1 are incorporated herein.

It is respectfully requested that independent claim 1 and related dependent claim 7 be allowed.

In item 8, on pages 6-7 of the Action, the Examiner rejected claims 13-20 under 35 USC 103(a) as being unpatentable over Stayt and further in view of Eda et al. (U.S. Patent No. 5,438,579) ("Eda"). This rejection is traversed and reconsideration is requested.

Independent claims 13 and 18 recite, “an optical filter in said control loop coupled to said plurality of laser diodes and having a transmittance substantially periodically changing with the wavelength of an incident light, wherein the reference laser diode is operated at temperatures lower than or equal to an ordinary temperature, and said change in said temperature control condition for said reference laser diode comprises a result of a comparison between an initial set temperature and a latest set temperature, where a deterioration of said temperature sensor reflects the compensation of said temperature control conditions of said laser diodes other than said reference laser diode, and an initial starting wavelength of an optical signal outputted from said laser diodes other than said reference laser diode is controlled within a desired wavelength pull-in range.” Because independent claims 13 and 18 include similar claim features as those recited in independent claim 1, although of different scope, the arguments presented above supporting the patentability of independent claim 1 in view of Stayt are incorporated herein to support the patentability of independent claims 13 and 18.

Eda, in turn, describes an LD temperature sensor 40 for detecting temperature near LD 32 and an ambient temperature sensor 42 to detect an ambient temperature around LD 32. See column 7, lines 25-29.

However, similarly as Stayt, Eda is silent as to teaching or suggesting a “change in said temperature control condition for said reference laser diode comprises a result of a comparison between an initial set temperature and a latest set temperature, where a deterioration of said temperature sensor reflects the compensation of said temperature control conditions of said laser diodes other than said reference laser diode,” as recited in independent claims 13 and 18.

Thus, even assuming, arguendo, that Stayt and Eda were combined, a combination thereof would fail to teach or suggest all the recitations of independent claims 13 and 18.

It is respectfully requested that the rejection to the claims be withdrawn.

In item 9, on page 7 of the Action, the Examiner rejected claims 13-20 under 35 USC 103(a) as being unpatentable over Volz and further in view of Eda. This rejection is traversed and reconsideration is requested.

Independent claims 13 and 18 recite, “an optical filter in said control loop coupled to said plurality of laser diodes and having a transmittance substantially periodically changing with the wavelength of an incident light, wherein the reference laser diode is operated at temperatures lower than or equal to an ordinary temperature, and said change in said temperature control condition for said reference laser diode comprises a result of a comparison between an initial set temperature and a latest set temperature, where a deterioration of said temperature sensor

reflects the compensation of said temperature control conditions of said laser diodes other than said reference laser diode, and an initial starting wavelength of an optical signal outputted from said laser diodes other than said reference laser diode is controlled within a desired wavelength pull-in range.” Because independent claims 13 and 18 include similar claim features as those recited in independent claim 1, although of different scope, the arguments presented above supporting the patentability of independent claim 1 in view of Volz are incorporated herein to support the patentability of independent claims 13 and 18.

Further, the arguments presented above supporting the patentability of independent claims 13 and 18 in view of Eda are incorporated herein. Thus, Eda and Volz, individually or combined, fail to teach all the claimed features recited in independent claims 13 and 18.

Similar arguments presented above supporting the patentability of independent claims 1, 9, 13, and 18 are incorporated herewith to support the patentability of independent claims 21, 22, 23, and 24. It is respectfully requested that the rejection to the claims be withdrawn.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot and further, that all pending claims patentably distinguish over the prior art. There being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited. At a minimum, this Amendment should be entered at least for purposes of Appeal, since it either clarifies and/or narrows the issues for consideration by the Board.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner's contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

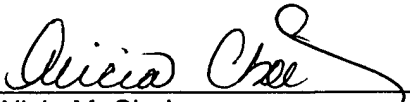
Serial No. 09/804,250

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: June 25, 2004

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